

CLAIMS

1. A matte liquid toner suitable for use in a liquid toner printer, comprising:
 - a) a carrier liquid;
 - 5 b) toner particles comprising a resin; and
 - c) substantially uncolored additive particles of average diameter between 1 and 20 micrometers dispersed in the resin.
2. A matte liquid toner suitable for use in a liquid toner printer, comprising:
 - 10 a) a carrier liquid;
 - b) toner particles comprising a resin; and
 - c) additive particles of average diameter between 1 and 20 micrometers dispersed in the resin, comprising at least 5% by weight of the toner particles.
- 15 3. A matte toner according to claim 2, which is substantially colorless.
4. A matte toner according to any of the preceding claims, wherein the average diameter of the additive particles is between 1 and 3 micrometers.
- 20 5. A matte toner according to any of claims 1-4, wherein the average diameter of the additive particles is between 3 and 8 micrometers.
6. A matte toner according to any of claims 1-4, wherein the average diameter of the additive particles is between 8 and 20 micrometers.
- 25 7. A matte toner according to any of the preceding claims, wherein the additive particles make up between 5% and 10% by weight of the toner particles.
8. A matte toner according to any of the preceding claims, wherein the additive particles make up between 10% and 20% by weight of the toner particles.
- 30 9. A matte toner according to any of the preceding claims, wherein the additive particles make up between 20% and 40% by weight of the toner particles.

10. A matte toner according to any of the preceding claims, wherein the additive particles make up at least 40% by weight of the toner particles.

11. A matte toner according to any of the preceding claims, wherein the resin
5 comprises at least one thermoplastic resin.

12. A matte toner according to claim 11, wherein at least one of the at least one thermoplastic resins has a melt flow index less than or equal to 100.

10 13. A matte toner according to claim 12, wherein said thermoplastic resin has a melt flow index less than 35.

14. A matte toner according to any of the preceding claims, wherein a resin in the toner particles solvates and is plasticized by the carrier liquid.

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15. A matte toner according to any of the preceding claims, wherein the additive particles comprise one or more of PTFE (teflon), PTFE wax, and polyethylene wax.

16. A matte toner according to any of the preceding claims, wherein the additive
20 particles comprise one or more of cross-linked poly-methyl-methacrylate, cross-linked poly-methyl-butylacrylate, and cross-linked poly-acryl-acrylate.

17. A matte toner according to any of the preceding claims, wherein the toner particles comprise a first resin, and the additive particles comprise a second resin that
25 is incompatible with the first resin.

18. A method of printing an at least partially matte image, on a printing media, the method comprising:

- 30 a) printing an image on the printing media, which image has a first gloss; and
 b) printing a layer of a matte toner that reduces the glossiness of the image on at least a portion of the glossy part of the image, thereby reducing the glossiness of said portion.

19. A method according to claims 18, wherein printing the layer of matte toner comprises printing over the image.

20. A method according to claim 18 or claim 19, wherein printing the layer of
5 matte toner comprises printing under the image.

21. A method according to any of claims 18-20, wherein the matte toner is not printed on the entire image, thereby highlighting part of the image by leaving said part of the image glossier than the portion of the image where the matte toner is printed.

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22. A method according to claim 21, and including printing a layer of an extra glossy toner that increases the gloss of the image on at least a portion of the part of the image not printed with matte toner.

15 23. A method according to any of claims 18-22 and including printing a plurality of images with at least two different degrees of glossiness selectively applied to different images, comprising:

printing a layer of a matte toner on images selected to have a lower degree of glossiness, thereby reducing the glossiness of said images to a second lower degree of
20 glossiness.

24. A method according to claim 23, and including printing a layer of an extra glossy toner on images selected to have a greater degree of glossiness.

25 25. A method according to claim 23 or claim 24, wherein each image has substantially uniform glossiness.

26. A method according to any of claims 23-25, wherein the plurality of images are printed on a printing media having a same glossiness.

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27. A method according to any of claims 18-26 wherein printing a layer of matte toner comprises printing the layer using different manners to obtain different degrees of glossiness.

28. A method according to claim 27, wherein printing matte toner in different manners comprises printing matte toner covering different proportions of an area being printed.

5 29. A method according to claim 27 or claim 28, wherein printing matte toner in different manners comprises printing different numbers of layers of matte toner.

30. A method according to any of claims 18 to 29, wherein the matte toner comprises additive particles, and when the toner is printed on a printing media, the
10 presence of the additive particles causes the glossiness of the surface of the printing media to be less than 90% of the glossiness that the printed surface would have without the additive particles.

31. A method according to claim 30, wherein the presence of the additive particles
15 causes the glossiness of the surface of the printing media to be less than 50% of the glossiness that the printed surface would have without the additive particles.

32. A method according to claim 30, wherein the presence of the additive particles causes the glossiness of the surface of the printing media to be less than 30% of the
20 glossiness that the printed surface would have without the additive particles.

33. A method according to any of claims 18-32 wherein the layer of matte toner is printed using a matte toner according to any of claims 1-17.

25 34. A method according to any of claims 30-33, wherein the additive particles do not melt during printing.

35. A printer for printing both matte and glossy images on a same grade of printing media, comprising:

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- a) at least one reservoir holding colored toner;
 - b) a reservoir holding a matte toner; and
 - c) a printing engine which applies toner from at least one of the at least one colored toner reservoirs to the printing media, thereby producing the images from the

colored toner, and selectively applies the matte toner to some of said printing media, thereby making some of the images matte images.

36. A printer according to claim 35, wherein the matte toner is the matte toner
5 according to any of claims 1-17.

37. A printer according to claim 35 or claim 36, and including a reservoir holding
an extra glossy toner, wherein the printing engine also selectively applies the extra
glossy toner to some of the printing media, thereby producing the glossy images.

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38. A printer according to any of claims 35-37, wherein the printing engine is
configured to selectively apply the matte toner to only one portion of the printing
media, thereby producing images that have different degrees of glossiness in different
areas thereof.

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39. A printer according to any of claims 35-37, wherein the printing engine is
configured to selectively apply toner so that the image has uniform glossiness.

40. A printer according to any of claims 35-39, comprising a controller which
20 controls the selective application of the matte toner to the printing media, thereby
controlling the glossiness of at least a portion of each image.

41. A printer according any of claims 35-40, wherein the print engine selectively
applies the matte toner in different manners to produce different degrees of glossiness.

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42. A printer according to claim 41, wherein the image comprises a plurality of
pixels, and the print engine applies the matte toner to different fractions of the pixels
to produce different degrees of glossiness.

43. A printer according to claim 41, wherein the print engine applies the matte
30 toner to at least some of the printing media more than once, and applies different
numbers of layers of the matte toner to produce different degrees of glossiness.